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SQUIRE, SANDERS & DEMPSEY L.L.P.
14TH FLOOR
8000 TOWERS CRESCENT
TYSONS CORNER, VA 22182

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WILSON, ROBERT W	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/833,868	ARRAKOSKI ET AL.	
	Examiner	Art Unit	
	Robert W. Wilson	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17 and 20-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17 and 20-29* is/are rejected.

7)☒ Claim(s) *1-17,20 and 21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 August 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/13/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5-6, 15-16, 20-24, 26-29 are rejected under 35 U.S.C. 102(E) as being anticipated by Haas (U.S. Patent No.: 6,304,556).

Referring to claim 1, Haas teaches : a wireless access network (Fig 3) comprising: a first-tier mesh formed of a plurality of first tier nodes (28 or first tier has a plurality of nodes per Fig 3) each of the first-tier nodes of the plurality of first tier nodes capable of communicating data within the first tier with at least selected other of the first-tier nodes (routing provided as peer to peer per col. 8 line 37 to col. 9 line 17) at least one of the first tier nodes forming a sink node (CH 3 per Fig 3 or sink node)

At least a second-tier mesh formed of a plurality of second tier nodes each of the second-tier nodes of the plurality of second-tier nodes capable of communicating data within the second tier with at least selected other of the second-tier nodes (CH1-CH4 in 32 per Fig 3 are second tier nodes in a mesh which are capable of communicating)

a second-tier sink node further capable of communicating with the first-tier sink node of said first-tier sink mesh (CH3 in 32 or second tier-sink node is capable of communicating with CH3 in 28 or first tier sink node per Fig 3)

Wherein the wireless access network provides radio communication of data therein (Nodes in Figure 3 are mobile nodes so wireless access is provided)

In addition Haas teaches:
Regarding claim 21, wherein at least one tier-node and said first-tier mesh and at least one second tier node of said second tier mesh are not collocated the at least one first-tier node located distance form the at least one second tier node located distant form the at least one second tier node capable of communication with the at least selected other of the first-tier nodes and the at least one second-tier node located distant form the at least one first-tier node capable of

communicating with the at least selected other of the second tier node (The Ad hoc network of Fig 3 is not co-located)

Referring to claim 5, Haas teaches : a wireless access network (Fig 3) comprising: a first-tier mesh formed of a plurality of first tier nodes each of the first-tier nodes of the plurality of first tier nodes capable of communicating data within the first tier with at least one other of the first-tier nodes (28 or first tier mesh has a plurality of nodes capable of communicating per Fig 3)

At least a second-tier mesh formed of a plurality of second tier nodes each of the second-tier nodes of the plurality of second-tier nodes capable of communicating data within the second tier with at least selected other of the second-tier nodes (CH1-4 in 32 per Fig 3 are second tier nodes capable of communicating) at least one of the second-tier nodes forming a second-tier sink node (Each of nodes CH1-4 in Fig 32 are sink nodes) the second-tier sink node further capable of communicating with the first-tier sink node of said first-tier sink mesh (Each of the Sink nodes CH1-CH4 in 32 are capable of communicating with their counterpart sink node CH1 to CH4 respectively per Fig 3)

Wherein the first-tier mesh comprises an ad-hoc mesh which exhibits an ad-hoc configuration and an ad-hoc number of first-tier nodes (first tier per Fig 3 is ad-hoc per col. 8 line 39 which inherently contains an ad-hoc number of first tier nodes) and

Wherein the wireless access network provides radio communication of data therein (Nodes in Figure 3 are mobile nodes so wireless access is provided)

In addition Haas teaches:
Regarding claim 6, wherein the first-tier nodes comprise mobile nodes capable of movement through a selected area (First-tier nodes are ad-hoc mobile which are inherently capable of movement through a selected area)

Referring to claim 15, Haas teaches: a wireless access network (Fig 3) comprising:

a first-tier mesh formed of a plurality of first tier nodes (28 or first tier has a plurality of nodes per Fig 3) each of the first-tier nodes of the plurality of first tier nodes capable of communicating data within the first tier with at least selected other of the first-tier nodes (routing provided as peer to peer per col. 8 line 37 to col. 9 line 17) at least one of the first tier nodes forming a sink node (CH 3 per Fig 3 or sink node)

At least a second-tier mesh formed of a plurality of second tier nodes each of the second-tier nodes of the plurality of second-tier nodes capable of communicating data within the second tier with at least selected other of the second-tier nodes with at least selected others of the second-tier nodes (CH1-CH4 in 32 per Fig 3 are second tier nodes in a mesh which are capable of communicating)

At least one of the second-tier nodes forming a second tier sink node k the second-tier sink node further capable of communicating with the first-tier sink node of said first tier mesh (CH3 in 32 or second tier-sink node is capable of communicating with CH3 in 28 or first tier sink node per Fig 3)

Wherein the at least one of the first-tier node forming the first-tier sink node comprises a first first-tier node forming a first first-tier sink node and at least a second first tier node forming a second first-tier node (CH3 in 28 is s first first-tier node which is a sink and CH2 is a second first tier node which is a sink per Fig 3) wherein the at least one of the second-tier nodes forming the second-tier sink comprises a second-tier node forming a second-tier sink node (CH2 is the second second tier node), the first-tier sink node capable of communicating with the first second tier sink node (Tier nodes are capable of intercommunicating) , the second first-tier sink node capable of communicating with the second second-tier sink node (tier nodes are capable of intercommunicating) and the first and second second-tier sink node respectively are capable of intercommunicating (tier nodes are capable of intercommunicating)

Wherein the wireless access network provides radio communication of data therein (Nodes in Figure 3 are mobile nodes so wireless access is provided)

In addition Haas teaches:

Regarding claim 16, further comprising an other of the second-tier nodes of said second-tier mesh positioned between the first second-tier node sink node and a second second-tier sink node communication between the first and second-tier sink nodes effectuated by the way of the other second-tier nodes (There are other second-tier sink nodes in between per Fig 30

Referring to claim 20, Haas teaches: a method (Fig 3 performs the method) comprising forming a wireless access network providing for communication therein (Fig 3 is a wireless ad hoc network which forms in order to perform communication);

Forming a first-tier mesh of a plurality of first-tier nodes, each of the first-tier nodes capable of communicating data within the first tier with at least selected other of the first tier nodes (Fig 3 shows a first-tier mesh of a plurality of nodes which are a part of an ad-hoc network which forms and the nodes are capable of intercommunicating)

Forming a second-tier mesh of a plurality of second-tier nodes, each of the second tier nodes of the plurality of second-tier nodes capable of communicating data within the second tier with at least selected others of the second-tier nodes (Figure 3 shows an ad-hoc network which forms of second tier nodes with are capable of intercommunicating) at least one of the second tier nodes forming a second-tier sink node further capable of communicating with the first tier sink node of the first-tier mesh formed during said operation of forming the second-tier mesh (CH1-CH4 in 32 per Fig 3 are second tier nodes which are capable of communicating with CH1-CH4 which are their first tier counterparts)

Referring to claim 22; Haas teaches: a first-tier sink node (CH3 in 28 per Fig 3) at least one first-tier node (nodes other than CH3 in 28 per Fig 3) wherein the at least one first-tier nodes form a first tier mesh (nodes other than CH3 in 28 per Fig 3 form a mesh), and the first-tier sink node communicates data within the first tier with at least selected other of the at least one first-tier nodes (CH3 communicates with all of the node in 28 per Fig 3) and communicated data with a second tier sink node of a second-tier network (CH3 per 28 communicates with CH3 per 32 in Fig 3)

In addition Haas teaches:
Regarding claim 23, wherein the first-tier mesh comprises an ad-hoc mesh which exhibits an ad-hoc configuration and an ad-hoc number of the at least one of first-tier nodes (The first tier-mesh is an ad hoc network with an ad-hoc number of at least one first tier nodes per Fig 3)

Referring to claim 24, a second-tier sink node (CH 1 in 32 per Fig 3) comprising: at least one second-tier node (CH 1 in 32 per Fig 3) wherein the at least one second-tier nodes form a second-tier mesh (CH2 in 32 per Fig 3) and the second-tier sink node communicates data within the second tier with at least other of the at least one second-tier nodes (all of the second tier nodes can intercommunicate) and communicates data with a first-tier sink node of ta first-tier network (CH1-CH4 in 32 per Fig 3 are second tier nodes which are capable of communicating with CH1-CH4 which are their first tier counterparts)

Referring to claim 26, a first-tier sink node (CH3 in 28 per Fig 3) comprising: at least one first-tier node , where the at least one first tier nodes form a first-tier mesh (nodes other that CH3 in 28 are first tier nodes which form a mesh)

Means for communicating data within the first tier with at least selected other of at least one first-tier nodes (Fig 3 has nodes which have the capabilities of the nodes in Fig 1 which have transceiver per col. 6 lines 57 or means)

Means for communicating data with a second-tier sink node of a second –tier network (Fig 3 has nodes which have the capabilities of the nodes in Fig 1 which have transceiver per col. 6 lines 57 or means)

Referring to claim 27, a second-tier sink node (CH3 in 32 per Fig 3) comprising: at least one second-tier node , where the at least one second tier nodes forms a second-tier mesh (nodes other that CH3 in 32 are second tier nodes which form a mesh)

Means for communicating data within the second tier with at least selected other of at least one second-tier nodes (Fig 3 has nodes which have the capabilities of the nodes in Fig 1 which have transceiver per col. 6 lines 57 or means)

Means for communicating data with a first-tier sink node of a first-tier mesh (Fig 3 has nodes which have the capabilities of the nodes in Fig 1 which have transceiver per col. 6 lines 57 or means)

Referring to claim 28, Haas teaches: a method (Fig 3 performs the method) forming a first-tier mesh using at least one first-tier nodes (The ad-hoc network in Figure 3 has first tier nodes which form in a mesh) communicating data with the first tier with at least selected other of the at least one first-tier nodes (All of the nodes in the first tier can intercommunicate)

Communicating data with a second-tier sink node of a second-tier network (The first tier nodes can communicate data CH 1 to CH 4 in 32 per Fig 3)

Referring to claim 29, Haas teaches a method (Fig 3 performs the method) comprising forming a second-tier mesh using at least one second-tier nodes (The ad-hoc network of Fig 3 forms the second-tier mesh) communicating data within the second tier with at least selected other of the at least one second-tier nodes (CH1-CH4 in 32 can all intercommunicate) and communicating data with a first-tier sink node of a first-tier mesh (CH1 –CH4 in 32 can communicate data with their respective counterpart in the tier-1 network per Fig 3)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-3, 8-9, 11-13, 17, & 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (U.S. Patent No.: 6,304,556) in view of Liu (U.S. Patent No.: 6,980,537)

Referring to claim 2, Haas teaches the wireless access network of claim 1 and first tier nodes mesh and second tier nodes mesh
Haas does not expressly call for: first tier mesh operational characteristic and second tier operation characteristics being dissimilar.

Liu teaches: first tier mesh operational characteristic and second tier operation characteristics being dissimilar (tiers utilize different frequencies per col. 6 lines 41 to 62)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add first tier mesh operational characteristic and second tier operation characteristics being dissimilar of Liu to the first tier and second tier of Haas in order to build a system in communications does not interfere.

Referring to claim 3, the combination of Haas and Liu teach: the wireless access network of claim 2 and first tier nodes mesh and second tier nodes mesh

Haas does not expressly call for: first tier mesh frequency bandwidth and second tier frequency bandwidth being within which communication of data is effectuated the first frequency bandwidth and the second frequency bandwidth having at least plurality of nonoverlapping portions

Liu teaches: first tier mesh frequency bandwidth and second tier frequency bandwidth being within which communication of data is effectuated the first frequency bandwidth and the second frequency bandwidth having at least plurality of nonoverlapping portions (tiers utilize different frequencies per col. 6 lines 41 to 62)

It would have been obvious to one of ordinary skill in the art at the time of the invention to nonoverlapping frequency band of the first and second tier of Liu to the first tier and second tier of Haas in order to build a system in communications does not interfere.

Referring to claim 8, Haas teaches : a wireless access network (Fig 3) comprising: a first-tier mesh formed of a plurality of first tier nodes (28 or first tier has a plurality of nodes per Fig 3) each of the first-tier nodes of the plurality of first tier nodes capable of communicating data within the first tier with at least selected other of the first-tier nodes (routing provided as peer to peer per col. 8 line 37 to col. 9 line 17) at least one of the first tier nodes forming a sink node (CH 3 per Fig 3 or sink node)

At least one of the second-tier nodes forming a second-tier sink node (CH1-CH4 in 32 per Fig 3 are second tier nodes) which are capable of communicating with the first-tier sink node of the first-tier mesh(CH1-CH4 in 32 per Fig 3 are second tier nodes in a mesh which are capable of communicating with their respective first tier counter part)

Wherein the wireless access network provides radio communication of data therein (Nodes in Figure 3 are mobile nodes so wireless access is provided)

Hass does not expressly call for: wherein said second tier mesh comprises a pre-configured mesh which exhibits a fixed configuration and a fixed number of second-tier nodes

Liu teaches: wherein said second tier mesh comprises a pre-configured mesh which exhibits a fixed configuration and a fixed number of second-tier nodes (col. 14 lines 27 to 61)

It would have been obvious to add the a pre-configured mesh which exhibits a fixed configuration and a fixed number of second-tier nodes of Liu in place of the wireless second tier node configuration in order to implement the network with a terrestrial network in order to provide more capacity between the second tier nodes.

Referring to claim 9, the combination of Haas and Liu teach the wireless access network of claim 8,

Haas does not expressly call for: wherein the second-tier nodes are stationary.

Liu teaches wherein the second-tier nodes are stationary (Fig 8)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the second-tier nodes are stationary of Liu in place of the ad hoc nodes of the combination of Haas and Liu in order to build a network which can utilize terrestrial interconnections and increase the bandwidth between second tier nodes.

Referring to claim 11, Haas teaches : a wireless access network (Fig 3) comprising: a first-tier mesh formed of a plurality of first tier nodes (28 or first tier has a plurality of nodes per Fig 3) each of the first-tier nodes of the plurality of first tier nodes capable of communicating data within the first tier with at least selected other of the first-tier nodes (routing provided as peer to peer per col. 8 line 37 to col. 9 line 17) at least one of the first tier nodes forming a first-tier sink node (CH 3 per Fig 3 or sink node)

At least a second-tier mesh formed of a plurality of second tier nodes each of the second-tier nodes of the plurality of second-tier nodes capable of communicating data within the second tier with at least selected other of the second-tier nodes (CH1-CH4 in 32 per Fig 3 are second tier nodes in a mesh which are capable of communicating) the second-tier sink node further capable of communicating with the first-tier sink node of said first-tier sink mesh (CH3 in 32 or second tier-sink node is capable of communicating with CH3 in 28 or first tier sink node per Fig 3)

Wherein the wireless access network provides radio communication of data therein (Nodes in Figure 3 are mobile nodes so wireless access is provided)

Haas does not expressly call for: a third-tier mesh formed of a plurality of third-tier nodes, each of the third-tier nodes of the plurality of third-tier nodes capable of communicating data with at least selected other of the third tier nodes, at least one of the third-tier nodes forming a third tier sink node

Liu teaches: a third-tier mesh formed of a plurality of third-tier nodes, each of the third-tier nodes of the plurality of third-tier nodes capable of communicating data with at least selected other of the third tier nodes (col. 5 lines 39 to 53 and per col. 14 lines 29 to 61 and per Fig 8)

at least one of the third-tier nodes forming a third tier sink node (super node is a third tier sink node col. 5 lines 39 to 53 and per col. 14 lines 29 to 61 and per Fig 8)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add a third-tier mesh formed of a plurality of third-tier nodes, each of the third-tier nodes of the plurality of third-tier nodes capable of communicating data with at least selected other of the third tier nodes, at least one of the third-tier nodes forming a third tier sink node of Liu to the two tier network of Haas in order to provide improved performance by allowing the super nodes to share data with the second tier nodes.

Referring to claim 12, the combination of Haas and Liu teach: the wireless access network of claim 11 and first-tier nodes meshed and second tier nodes meshed and third tier nodes meshed.

Haas does expressly call for: different operational characteristics for each tier (col. 6 lines 41 to 63)

It would have been obvious to add the different operation characteristic of each tier of Liu to the three tiered network of the combination of Liu and Haas in order to insure that the communication between each tier does not interfere.

Referring to claim 13, the combination of Haas and Liu teach: the wireless access network of claim 11:

Haas does not expressly call for: wherein said third-tier mesh comprises a point-to-point mesh which exhibits a fixed configuration and fixed number of third tier nodes

Liu teaches: wherein said third-tier mesh comprises a point-to-point mesh which exhibits a fixed configuration and fixed number of third tier nodes (Fig 8)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the third-tier mesh comprises a point-to-point mesh which exhibits a fixed configuration and fixed number of third tier nodes of Liu in place of the third tier nodes of the combination of Haas and Liu in order to utilize a terrestrial backbone which provides for additional bandwidth to be utilized between nodes.

Referring to claim 17, Haas teaches the wireless network of claim 15,

Haas does not expressly call for: wherein data communicated between the first-tier mesh is communicated at a first data rate wherein data communicated between the second tier nodes of said second tier mesh is communicated at a second data rate the second data rate greater than the first data rate such that data communicated between the first and second first-tier nodes is

communicated more quickly by way of the first and second-tier sink nodes that by way of the first-tier mesh

Liu teaches: wherein data communicated between the first-tier mesh is communicated at a first data rate wherein data communicated between the second tier nodes of said second tier mesh is communicated at a second data rate the second data rate greater than the first data rate such that data communicated between the first and second first-tier nodes is communicated more quickly by way of the first and second-tier sink nodes that by way of the first-tier mesh (first frequency and second frequency in which high frequency rate is on backbone or second tier per Fig 1A col. 6 lines 45 to 54)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the wherein data communicated between the first-tier mesh is communicated at a first data rate wherein data communicated between the second tier nodes of said second tier mesh is communicated at a second data rate the second data rate greater than the first data rate such that data communicated between the first and second first-tier nodes is communicated more quickly by way of the first and second-tier sink nodes that by way of the first-tier mesh of Liu to the first tier and second tier architecture network of Haas in order to improve performance by running a faster rate on the backbone than the first tier.

Referring to claim 25, Haas teaches: the second-tier node of claim 24.

Haas does not expressly call for: wherein the second-tier mesh comprises a pre-configured mesh which exhibits a fixed configuration and a fixed number of second-tier nodes

Liu teaches: wherein the second-tier mesh comprises a pre-configured mesh which exhibits a fixed configuration and a fixed number of second-tier nodes (Fig 8)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the second-tier mesh comprises a pre-configured mesh which exhibits a fixed configuration and a fixed number of second-tier nodes Liu in place of the ad hoc nodes of the combination of Haas and Liu in order to build a network which can utilize terrestrial interconnections and increase the bandwidth between second tier nodes.

5. Claims 4 & 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (U.S.

Patent No.: 6,304,556) in view of Acampora (U.S. Patent No.: 6,751,455)

Referring to claim 4, Haas teaches the wireless access network of claim 1 and first tier nodes mesh and second tier nodes mesh and are capable of intercommunicating

Haas does not expressly call for: at least one first-tier node of said first-tier node and at least one second tier node of said second-tier mesh are co-located the at least one first-tier node co-located with the at least one second-tier node and at least the one second-tier node co-located with the at least first-tier

Acamora teaches: at least one first-tier node of said first-tier node and at least one second tier node of said second-tier mesh are co-located the at least one first-tier node co-located with the at least one second-tier node and at least the one second-tier node co-located with the at least first-tier (network in a home per col. 7 lines 61 or collocated)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add at least one first-tier node of said first-tier node and at least one second tier node of said second-tier mesh are co-located the at least one first-tier node co-located with the at least one second-tier node and at least the one second-tier node co-located with the at least first-tier
of Acampora to the first tier and second tier of Haas in order to build a system in a home or business.

Referring to claim 7, Haas teaches: the wireless access network of claim 5,

Haas does not expressly call for: wherein the communication data is effectuated pursuant to NLOS (non line of sight) communication technique

Acampora teaches: wherein the communication data is effectuated pursuant to NLOS (non line of sight) communication technique (col. 2 lines 21 to 25)

It would have been obvious to add the short range radio capability of Acampora to the nodes of Haas in order to allow communication without line of sight restrictions.

6. Claims 10 & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas

(U.S. Patent No.: 6,304,556) in view of Liu (U.S. Patent No.: 6,980,537) further in view of

Acampora (U.S. Patent No.: 6,751,455)

Referring to claim 10, the combination of Haas and Liu teaches: the wireless access network of claim 9,

The combination of Haas and Liu do not expressly call for: wherein the communication data is effectuated pursuant to NLOS (non line of sight) communication technique

Acampora teaches: wherein the communication data is effectuated pursuant to NLOS (non line of sight) communication technique (col. 2 lines 21 to 25)

It would have been obvious to add the short range radio capability of Acampora to the nodes of the combination of Haas and Liu in order to allow communication without line of sight restrictions.

Referring to claim 14, the combination of Haas and Liu teaches: the wireless access network of claim 13,

The combination of Haas and Liu do not expressly call for: wherein the communication data is effectuated pursuant to NLOS (non line of sight) communication technique

Acampora teaches: wherein the communication data is effectuated pursuant to NLOS (non line of sight) communication technique (col. 2 lines 21 to 25)

It would have been obvious to add the short range radio capability of Acampora to the nodes of the combination of Haas and Liu in order to allow communication without line of sight restrictions.

Claim Objections

7. Claims 1-17 & 20-21 are objected to because of the following informalities: Referring to claims 1, 5, 8, 11, 15, & 20-21; the examiner objects to the usage of "capable of communicating" and "further capable of communicating" because it can be interpreted as an optional requirement and not a positive recitation of communicating. The examiner request the applicant to either amend the claims to a positive recitation or provide argument that the meaning of these limitations are a positive recitation. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 26-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claims 26 & 27, the applicant has claimed two separate means but has not provided a drawing nor has the applicant provided a description of the two separate means in the specification nor has the applicant provided a figure for each claim which shows what the means are. This claim is indefinite when invoking 112/6th paragraph because the examiner cannot assess the metes and bound it is unclear what is performing the means.

Drawings

10. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claims 26 & 27 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

11. The drawings are objected to because the applicant has not provided drawings showing what is performing the means in claims 26 & 27 ; consequently, the examiner cannot assess the metes and bound of the claims relative to 112/6th paragraph.

Response to Amendment

12. Applicant's arguments with respect to claims 1-17 & 20-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571/272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Robert W. Wilson

Robert W Wilson
Examiner
Art Unit 2619

RWW
12/21/07